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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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10/590,714

08/25/2006

Fujio Abe

2006\_1278A

2571

513 7590 11/20/2008

WENDEROTH, LIND & PONACK, L.L.P.

2033 K STREET N. W.

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WASHINGTON, DC 20006-1021

EXAMINER

SHUMATE, ANTHONY R

ART UNIT

PAPER NUMBER

1797

MAIL DATE

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11/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                   |  |
|------------------------------|--------------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/590,714 | <b>Applicant(s)</b><br>ABE, FUJIO |  |
|                              | <b>Examiner</b><br>ANTHONY SHUMATE   | <b>Art Unit</b><br>1797           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>25 August 2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Summary***

1. This is the initial Office action based on the 10/590,714 application filed 25 August 2006.
2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
3. Claims 1-12 canceled.
4. Claims 13-29 are pending and have been fully considered.

### ***Information Disclosure Statement***

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Drawings***

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 310R and 310L at page 35 line 24, and 802b to 802m at page 47 lines 11-17. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply

to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 301 R and 301L at figure 20, and 712a and 712b at figure 24A and figure 24B. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "1", "610", and "715" have both been used to designate humidity-conditioning sheet. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "10", "402", "501", "502" and "612" have both been used to designate humidity conditioner. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

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notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by CUSSLER (US 4,828,701 A).

For instant **claim 13**, CUSSLER teaches at column 3 lines 40-68, column 4 lines 1-25, and the abstract a configuration in which a water-soluble polymers are introduced into a macromolecular material (three-dimensional framework) that is formed by a polyisopropylacrylamide (cross-linked water-absorbing polymer).

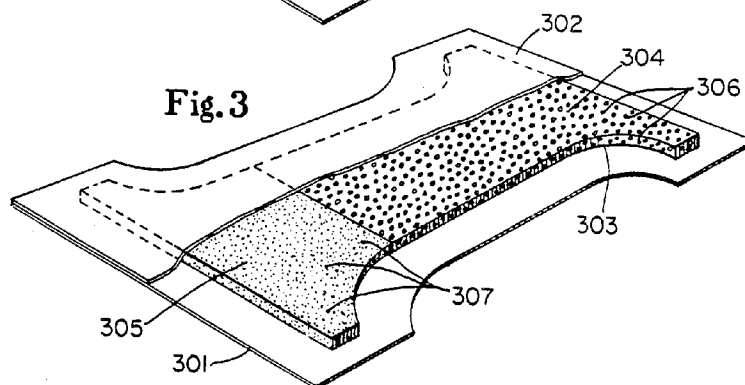
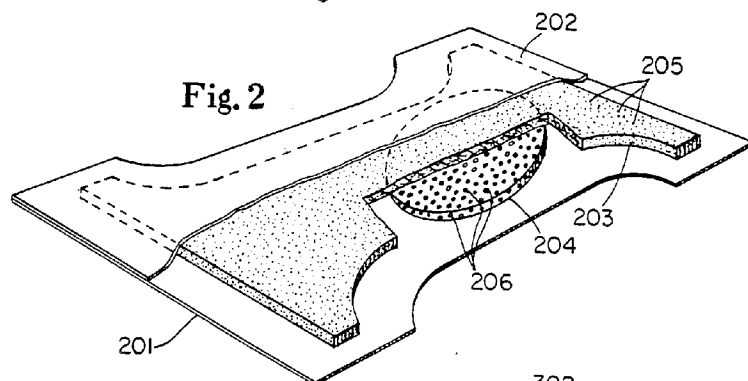
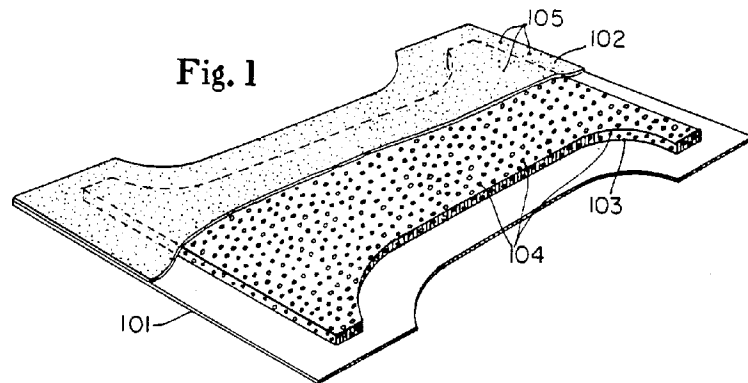
For instant **claim 15**, CUSSLER teaches at column 3 lines 40-68, column 4 lines 1-25, and the abstract wherein the polyisopropylacrylamide (water-absorbing polymer) have a cross linking ratio of 1% which is within the claimed range of no less than 0.5% but no more than 5%, thereby making a prima facie case of anticipation. (MPEP 2131.03)

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12. Claims 13, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by BERG et al. (US 4,685,909).

For instant **claim 13**, BERG et al. teaches at figure 1, column 8 lines 1-20, column 9 lines 25-50, column 12 lines 25-55, claim 35 and the abstract a configuration in which polyacrylate (pH control agent (water-soluble polymers)) are introduced into a diaper (three-dimensional framework) that is formed by a polyacrylate salt (cross linked water-absorbing polymer).

U.S. Patent Aug 11, 1987 Sheet 1 of 2 4,685,909

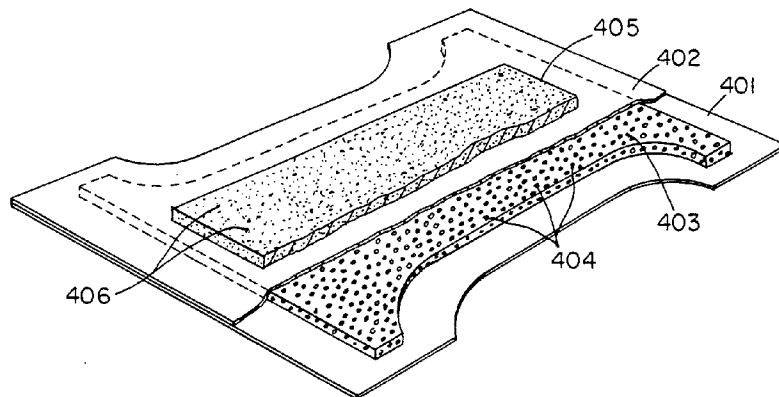




For instant **claim 16**, BERG et al. teaches at column 8 lines 1-20, column 9 lines 25-50, column 12 lines 25-55, column 10 lines 55-68, figure 4, claim 35 and the abstract the polyacrylate (humidity-conditioning sheet) is encased with a absorbent sheet 403 containing hydrophilic fiber material (water-permeable sheet member).

U.S. Patent Aug. 11, 1987 Sheet 2 of 2 4,685,909

Fig. 4



For instant **claim 19**, BERG et al. teaches at figure 1, column 8 lines 1-20, column 9 lines 25-50, column 12 lines 25-55 the polyacrylate (humidity conditioner) set in a diaper (clothing).

13. Claims 13-18 rejected under 35 U.S.C. 102(b) as being anticipated by ASAKA et al. (US 3,563,244).

For instant **claim 13**, ASAKA et al. teaches at column 2 lines 60-75 and the abstract a configuration in which polyvinyl alcohol (water-soluble polymers) are introduced into a condom (three-dimensional framework) that is formed by polyvinyl alcohol (cross-linked water-absorbing polymers).

For instant **claim 17**, ASAKA et al. teaches at column 4 lines 20-35 wherein the polyvinyl alcohol is partially saponified with the saponification value is 68.1 mol percent and the degree of polymerization is 1410.

$$68.1\% \text{ saponification\_value} \times 1410 \text{ degree\_of\_polymerization} = 960 \text{ monomers\_saponified}$$

Since, 960 monomers saponified is encompassed by the claimed range of no less than 900 and no more than 1100 monomer units being saponified, it thereby makes a prima facie case of anticipation. (MPEP 2131.03)

For instant **claim 18**, ASAKA et al. teaches at column 3 lines 35-55 wherein the polyvinyl alcohol has an average degree of polymerization of 500.

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14. Claims 13, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by FENG et al. (US 5,997,961).

For instant **claim 13**, FENG et al. teaches at the abstract, figure 1, column 4 lines 10-67 and column 5 lines 1-12 a configuration in which poly(N-isopropylacrylamide) (polyisopropylacrylamide (water-soluble polymer)) is introduced into a glass surface with thin coating of poly(N-isopropylacrylamide) (three-dimensional framework) that is formed by cross-linked polyisopropylacrylamide (water-absorbing polymer).

U.S. Patent

Dec. 7, 1999

Sheet 1 of 14

5,997,961

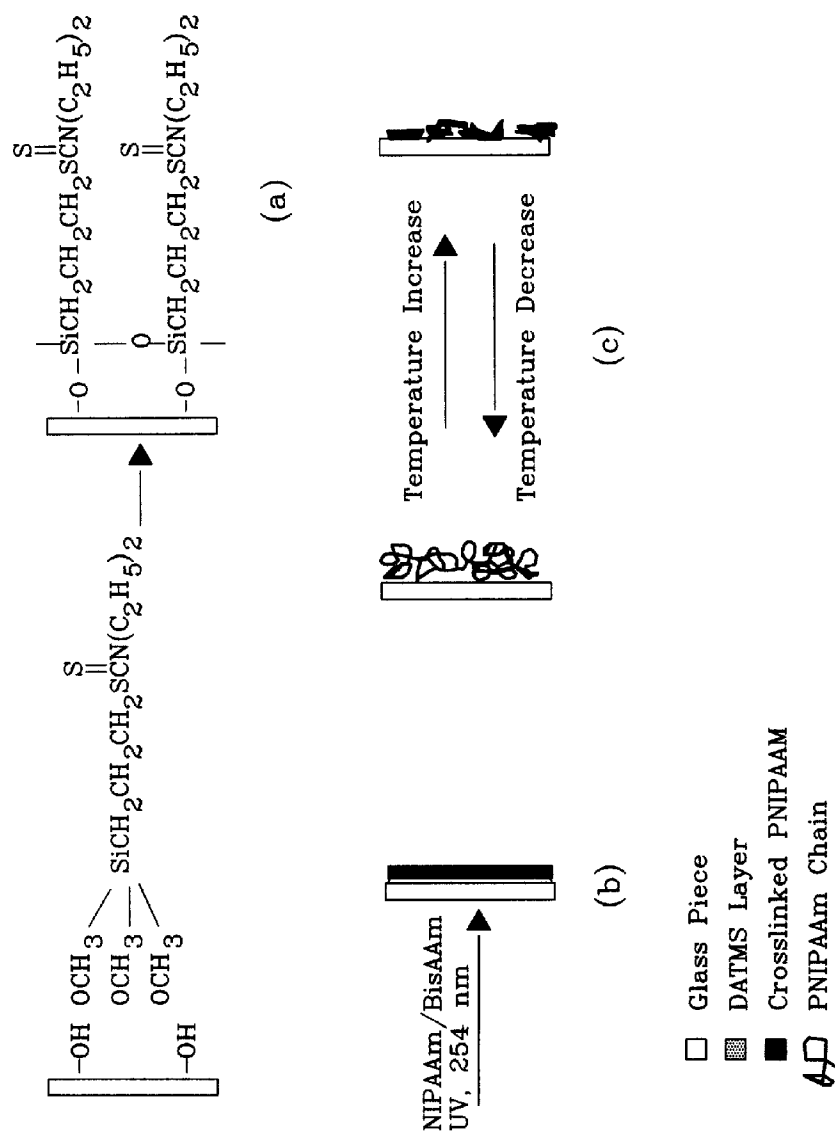


Fig. 1

For instant **claims 21 and 22**, FENG et al. teaches at the abstract, figure 1, column 4 lines 10-67 and column 5 lines 1-12 a poly(N-isopropylacrylamide) (polyisopropylacrylamide (water-soluble polymer)) layer is set on a glass surface (building material).

15. Claims 13, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by TANAKA et al. (US 5,115,969).

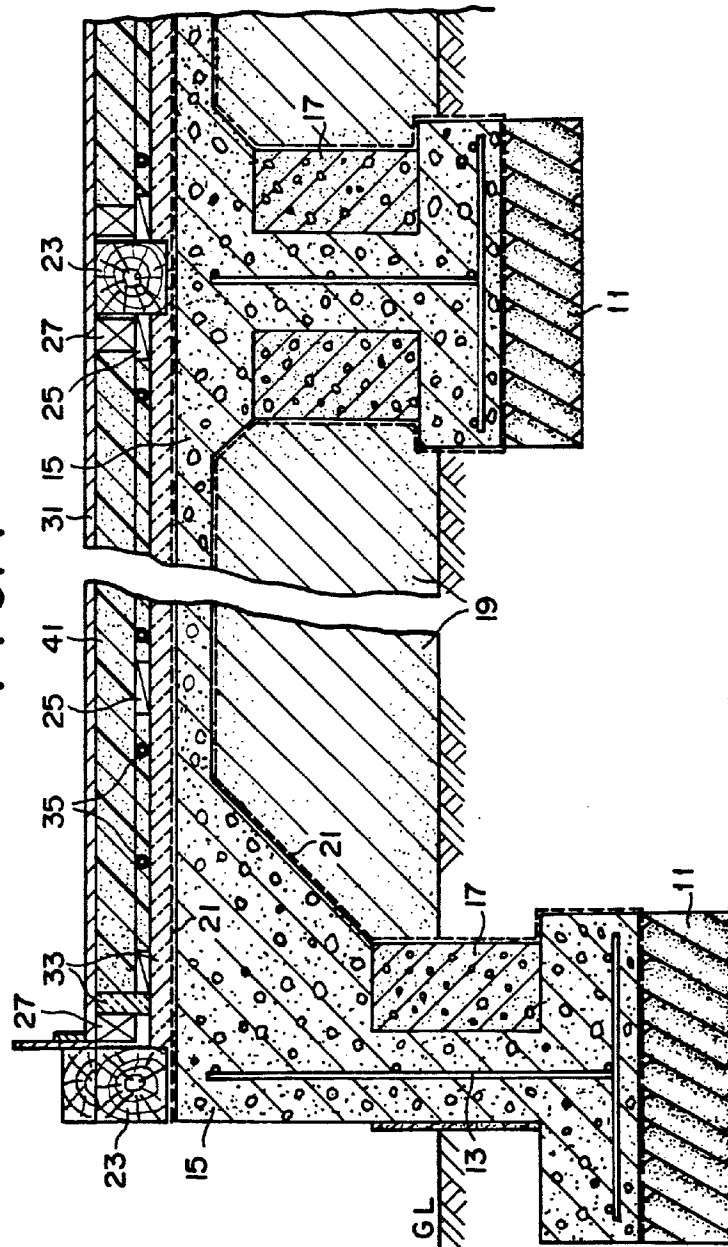
For instant **claims 13, 21 and 23**, teaches at the abstract, figure 1, column 2 lines 15-68, and column 3 lines 1-60, a floor structure (building material) with cross-linked polyvinyl alcohol (via cross-linking agent) where the polyvinyl alcohol sheet (humidity-conditioning sheet (water-permeable sheet member)) is set between a tatami mat surface (31) and an inside insulating material 33 (padding).

U.S. Patent

May 26, 1992

5,115,969

FIG. 1



16. Claims 13, 21 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by ROSS (US 5,439,010).

For instant **claims 13, 21 and 24**, ROSS teaches at the abstract, column 3 lines 20-55 and column 4 lines 35-55, a fibrous bonded sheet material (building material) by treating a fibrous base web which is wood-pulp fibres with cross-linked polyvinyl alcohol (via cross-linking agent glyoxal).

17. Claims 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by BEEMAN (US 3,477,970).

For instant **claims 28 and 29**, BEEMAN teaches at column 3 lines 1-25a composition (three-dimensional framework) with sodium polyacrylate and polyvinyl alcohol (water absorbing polymers). Also, BEEMAN teaches at column 6 lines 1-20 adding water to the composition and the polyvinyl (humidity conditioner) is dissolved (absorb water). Additionally, BEEMAN teaches at column 2 lines 15-45, drying of the composition (discharge the absorbed water to an outside of the framework).

18. Claims 25 rejected under 35 U.S.C. 102(b) as being anticipated by KUSANO et al. (US 5,114,577).



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For instant **claim 25**, KUSANO et al. teaches at column 23 lines 25-45 polyvinyl alcohol (humidity conditioner)(a configuration)(three-dimensional framework)(water-absorbing polymer).

Also, for instant **claim 25**, KUSANO et al. teaches at column 23 lines 25-45 the polyvinyl alcohol dissolving (having the humidity conditioner absorb water).

Additionally, for instant **claim 25**, KUSANO et al. teaches at column 23 lines 25-45 adding a sodium chloride solution (adjusting a water discharge with an osmotic pressure gradient established).

Furthermore, for instant **claim 25**, KUSANO et al. teaches at column 23 lines 25-45, adding 10g of sodium chloride and 100 ml of water to a flask and dissolving the sodium chloride in the water. It is the examiner's position that 10g of sodium chloride in 100 ml of water has a sodium chloride solution having a concentration of 1.7 M.

Moreover for instant **claim 25**, KUSANO et al. teaches at column 23 lines 25-45, adding the dissolved sodium chloride in the water to the polyvinyl alcohol (water-absorbed humidity conditioner).

Also for instant **claim 25**, the sodium chloride solution having a concentration of 1.7M is within the claimed range of no less than 0.01 M but no more than 3 M, thereby anticipating the claimed range. (MPEP 2131.03 PART II)

For instant **claim 26**, KUSANO et al. teaches at column 13 lines 10-35 in a 10% by weight aqueous solution of polyvinyl alcohol wherein the sodium chloride may be added to give a sodium chloride concentration of 1 to 12% by weight, which overlaps the claimed range of wherein the sodium chloride solution is added so that a weight ratio of sodium chloride to the introduced polyvinyl alcohol is substantially 1:1, thereby anticipated the claimed range. (MPEP 2131.03 PART II)

***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over BERG et al. (US 4,685,909) in view of HSU et al. (US 4,272,470) and REISING et al. (US 4,988,344).

For instant **claim 14**, BERG et al. does not teach wherein the polyvinyl alcohol has a molecular weight in a range of no less than 500 but no more than 20000. But, it would have been an obvious case of simple substitution to one having ordinary skill in the art at the time the invention was made to use the polyvinyl absorbent taught by HSU et al. in place of the polyacrylate absorbent taught by BERG et al at column 8 lines 1-20 in light of the teachings of REISING

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et al. at column 10 lines 1-40. HSU et al. teaches at column 2 lines 1-40 that polyvinyl alcohol has a molecular weight in the range of 10,000-200,000 which overlaps the claimed range of no less than 500 but no more than 20000, thereby making a prima facie case of obviousness. (MPEP 2144.05)

Also, for instant **claim 14**, BERG et al. teaches at column 11 lines 20-35 the control agent (water-absorbing polymers) is provided at a total concentration of 1 to 10% by weight of the article (humidity conditioner (total mass)) which overlaps the claimed range of no less than 1% of a total mass of the humidity conditioner but no more than 30% of the total mass, thereby making a prima facie case of obviousness. (MPEP 2144.05)

21. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over BERG et al. (US 4,685,909) in view of GREEN (US 5,245,707), and further in view of KADYMR et al. (US 6,618,859 B1).

For instant **claim 20**, BERG et al. teaches at column 8 lines 1-20, column 9 lines 25-50, column 12 lines 25-55, column 10 lines 55-68, figure 4, claim 35 and the abstract the polyacrylate (humidity-conditioning sheet) is encased with a absorbent sheet 403 containing hydrophilic fiber material (water-permeable sheet member).

Also for instant **claim 20**, BERG et al. does not teach the humidity conditioner set in the fatigue jacket (clothing) with a hook and loop fastener in a

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detachable manner. But, GREEN teaches at figure 1, the title, the abstract and column 1 lines 20-60 an absorbent material set in a garment with a hook and loop fastener in a removable (detachable) manner.

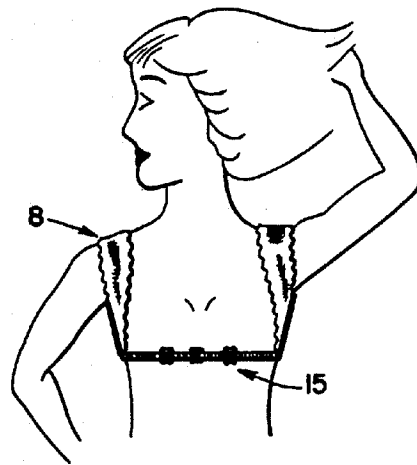
It would have been obvious to one of ordinary skill in the art at the time the invention was made to set the absorbent material taught by GREEN in a jacket (fatigue jacket), since KADYMER et al. teaches at column 1 lines 55-67 that the a dress shield such as the one taught by GREEN at figure 1, the title, the abstract and column 1 lines 20-60 can be placed in a jacket (fatigue jacket).

Furthermore for instant **claim 20**, it would have been an obvious case of simple substitution to one having ordinary skill in the art at the time the invention was made to use the absorbent taught by BERG et al. at column 8 lines 1-20, column 9 lines 25-50, column 12 lines 25-55, column 10 lines 55-68, figure 4, claim 35 in place of the absorbent material taught by GREEN at figure 1, the title, the abstract and column 1 lines 20-60.

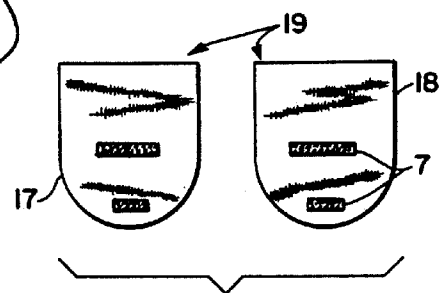
U.S. Patent

Sep. 21, 1993

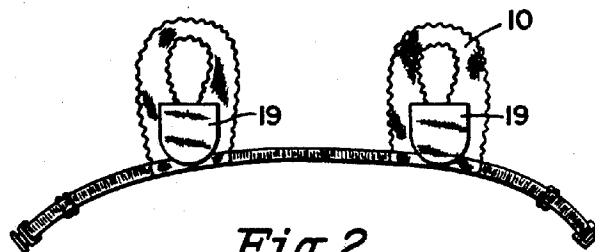
5,245,707



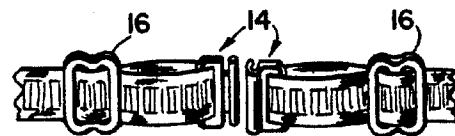
*Fig. 1*



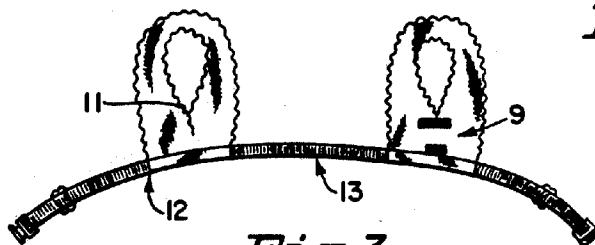
*Fig. 4*



*Fig. 2*



*Fig. 5*



*Fig. 3*

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22. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over HERMAN (US 3,072,569).

For instant **claims 25 and 27**, HERMAN teaches at column 4 lines 1-35, a sodium polyacrylate-polyvinyl alcohol polymer (three-dimensional framework)(water-absorbing polymers).

Also for instant **claims 25 and 27**, HERMAN teaches at column 2 lines 45-55 for the polymers of the present invention the specific viscosity measurements were determined by preparing a polymer in 1 N aqueous sodium chloride solution. Additionally, HERMAN teaches at column 4 lines 1-35, that the sodium polyacrylate-polyvinyl alcohol polymer has a specific viscosity value equal to 1.59. Therefore, it would have been obvious to one of ordinary skill at the time of the invention in the art to determine the specific viscosity of the sodium polyacrylate-polyvinyl alcohol polymer with a 1 N aqueous sodium chloride solution. Furthermore, it is of the examiners position that a 1 N aqueous sodium chloride solution has a 0.02 M aqueous (water) sodium chloride solution. A 0.02 M aqueous (water) sodium chloride solution overlaps the claimed range of a sodium chloride solution having a concentration of no less than 0.01 M but no more than 3 M, thereby making a prima facie case of obviousness. (MPEP 2144.05 PART I)

### ***Conclusion***

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23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY SHUMATE whose telephone number is (571)270-5546. The examiner can normally be reached on M-Th 9-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571)272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Duane S. Smith/  
Supervisory Patent Examiner, Art  
Unit 1797

/A.S./  
Examiner Art Unit 1797